

Amendments to the Specification:

Please add the following section heading and paragraph on a new page after the claims and before the appendix:

ABSTRACT OF THE DISCLOSURE

This invention is related to methods, systems and computer program products for determining the biological effect and/or activity of drugs, chemical substances and/or pharmaceutical compositions using their effect on DNA-methylation as a marker for their biological effect(s). The invention is further related to the use of the inventive methods, systems and computer program products in obtaining new biologically active compounds which can be used as so-called "lead"-compounds for new and effective medicaments and treatment strategies of, in particular, human diseases.